

The Triple Resonance of Innovation and Development in New Era News Media

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Abstract: With the rapid development of information technology and the diversification of social demands, the news media industry faces profound changes and the necessity for innovation. Based on the significance of innovation in the development of news media in the new era, this study addresses the current challenges in the innovation and development of news media, such as insufficient technological advancement, severe platform and data barriers, and a shortage of new media talent. The paper proposes strategies such as strengthening technological innovation and R&D investment, promoting cross-platform cooperation and data sharing, and cultivating and recruiting new media talents, providing valuable insights for the development of Chinese news media in the new era.

Keywords: News media; Innovative development; Triple resonance

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1. Introduction

In the new era of rapid development in information technology, the news media industry is facing unprecedented opportunities and challenges^[1]. On the one hand, with the growing maturity of technologies like the internet, artificial intelligence, and big data, traditional news media's production and dissemination methods have undergone profound changes, showing trends of digitization, intelligence, and diversification. On the other hand, continuous socio-economic development and the improvement of people's living standards have led to changes in the structure and content of information demands. The public now expects more timely, accurate, and personalized news reporting^[2-3]. In this context, the innovative development of the news media has become a key pathway for promoting the upgrade of the media industry and realizing social progress.

With the widespread application of new media technologies, the speed and form of information dissemination have undergone significant transformations^[4]. Traditional one-way communication models are gradually being replaced by more interactive, widely distributed multi-directional communication, enriching

the channels and forms of news dissemination. However, this more complex communication environment has also introduced issues such as information overload and the spread of fake news, impacting the credibility of news and public trust. Therefore, the news media industry urgently needs to reform the order of information dissemination through technological innovation and institutional reform, improving the quality of news content and the efficiency of dissemination ^[5].

This study integrates the current state of innovative development in news media, addressing the issues faced by media innovation in the new era, to propose effective development paths and offer new directions for the modernization of Chinese news media.

2. The significance of innovation and development in new era news media

2.1. Meeting the information demands of the people in the new era

The innovative development of news media plays a crucial role in enhancing the timeliness and reach of information dissemination. With the popularization of mobile internet and the widespread application of new media technologies, the release of news is no longer constrained by the time and space limitations of traditional media, allowing information to be transmitted more rapidly. Driven by digital technologies, news dissemination has broken through the boundaries of time and geography, achieving 24/7, cross-platform content updates, thus meeting the public's demand for timely information access ^[6]. Furthermore, under the diversified context of information dissemination channels, news media can expand their coverage to a broader audience through various platforms, such as mobile applications, social media platforms, short videos, and live streams.

The innovative development of news media also lies in its ability to provide precise content distribution and personalized recommendations, further satisfying the public's demand for selective information. With the rapid development of big data and artificial intelligence technologies, news media can offer personalized content recommendation services based on user behavior data and preference analysis, allowing audiences to quickly find news reports aligned with their interests and needs in the vast sea of information.

2.2. Enhancing news dissemination capabilities

The innovative development of news media has significantly improved the quality of news dissemination in terms of diversity and depth of content production. Through multimedia technologies and emerging forms of communication, news reporting is no longer limited to text and images but can be presented through various formats such as video, audio, and data visualization. This diverse array of content presentation methods makes news information richer and more vivid, helping to better attract the audience's attention and convey complex background information ^[7].

The innovative development of news media has greatly enhanced the interactivity and audience engagement of news dissemination. Modern communication technologies have transformed audiences from passive recipients of information into active participants in the news dissemination process. Audiences can comment on, share news content, and even directly interact with journalists via social media. This level of interactivity injects new dynamic factors into the dissemination process, making the methods of information dissemination more flexible and diverse.

2.3. Strengthening public opinion supervision

Technological innovation in news media has significantly improved the timeliness of public opinion

supervision. With the help of new media technologies, news events can be instantly reported and disseminated, enabling media outlets to respond swiftly to various emergencies and conduct timely supervision of social issues, public policies, and government actions. This real-time supervisory capability not only exposes problems at the earliest stage, preventing further deterioration but also creates high pressure through swift public feedback on negative phenomena, prompting relevant departments to react quickly with rectifications or clarifications^[8]. Such fast-paced public opinion supervision has allowed news media to play a more active role in maintaining social order and safeguarding public interests.

The innovative development of news media also enhances the depth and breadth of public opinion supervision. Utilizing big data analysis and information mining technologies, media outlets can conduct in-depth analyses of social issues from multiple angles, uncovering the root causes and complexities behind these problems and providing more comprehensive supervisory reports. This deep-level supervision goes beyond revealing the truth of single events; by organizing and analyzing data, it can also highlight systemic defects or structural contradictions underlying these issues, offering valuable insights for social governance and policy formulation. Additionally, through techniques such as data visualization, complex information can be intuitively presented in the form of charts or interactive content, making it easier for the audience to grasp the core messages of supervisory reports, thereby enhancing the persuasive power and influence of public opinion supervision.

3. Challenges facing the innovation and development of news media today

3.1. Insufficient development of innovation technology in news media

The development and application of cutting-edge technology in news media remain significantly lagging. While emerging technologies such as big data, artificial intelligence (AI), and blockchain have seen rapid development and deep application in other sectors, news media still face substantial gaps in their utilization. Although some news organizations have established a basic technological foundation, their applications are primarily focused on simple automation processes and shallow data analysis, failing to fully leverage the potential of these technologies for in-depth news mining, complex data processing, and multidimensional information presentation. Data journalism is still not widely adopted, and news reports capable of revealing societal trends and issues through data analysis remain scarce, limiting the depth of media content and the uniqueness of reporting.

The construction and maintenance of the technological infrastructure in news media lags, leading to multiple challenges in information transmission efficiency and the precision of content distribution. Many news organizations still rely on traditional hardware and outdated software systems, which are insufficient to support large-scale, multi-platform content distribution and data processing needs. Particularly in the dissemination of multimedia content, the transmission and processing of large-capacity data such as video, audio, and images are often constrained by technical bottlenecks, affecting the speed of news dissemination and user experience. Smaller media organizations, due to limited funding and technical resources, struggle to build adequate technological support platforms, facing greater difficulties in the digital transformation process. The incomplete technological infrastructure makes it difficult for news media to respond promptly and effectively to breaking events or societal issues, resulting in delays in information release and limitations in dissemination scope.

3.2. Severe platformization and data barriers in media

With the rapid growth of digital media, news dissemination is increasingly evolving towards platformization, where various media platforms establish closed content ecosystems to enhance their competitive advantage, forming so-called “walled gardens.” These closed ecosystems are typically characterized by independent data storage and exclusive content distribution, making it difficult to share data between platforms and synchronize content across platforms. This closed nature leads to the fragmentation of news data resources across different platforms, resulting in the phenomenon of “data islands”, which severely hinders effective data integration and analysis. Especially in the context of the growing importance of big data technology, the dispersion of data weakens the ability of news organizations to conduct precise analysis and content optimization using big data, making it difficult to achieve data-driven news production and intelligent dissemination.

Data barriers between platforms exist not only on a technical level but are also constrained by commercial interests and legal regulations. Many large news platforms, to maintain their market position, adopt closed data management strategies, unwilling to open data interfaces or share data resources with external entities. While this closed business model protects the platform’s core data assets to some extent, it also exacerbates obstacles to information flow within the industry, reducing the efficiency of news dissemination. Furthermore, legal requirements related to data privacy protection and cross-border data flows in some countries and regions create compliance risks and legal barriers to data sharing between platforms. The dual barriers of law and commercial interests further intensify the division of news media data resources, making the problem of data islands difficult to resolve through technical means.

3.3. Shortage of new media talent

The lack of multidisciplinary talent is a notable constraint on the diversified development needs of the news media field. With the rapid proliferation of digital technologies, news production and dissemination are no longer solely reliant on traditional writing and editorial skills. The industry increasingly demands multidisciplinary talents who are proficient in new media communication technologies and possess skills in data analysis, programming, and user experience design. However, the existing media workforce is largely trained in traditional journalism education, with relatively weak capabilities in technical applications and data processing. These media professionals often lack the practical skills to write algorithms for recommendation systems, perform data mining, or develop multimedia products, making it difficult for them to handle modern news production and dissemination that relies on big data and AI technologies. This skills mismatch results in news organizations struggling to fully implement digital technologies and intelligent tools in their operations, limiting innovation in news content and diversification in dissemination methods.

The slow pace of knowledge updating among traditional media professionals further exacerbates the skills gap in the news media industry. Although some news organizations and universities have begun to introduce new media technologies into journalism curricula, existing training content still falls short of covering the rapidly evolving technological demands. For instance, new forms of news production, such as data journalism, virtual reality (VR) reporting, and augmented reality (AR) content creation, require practitioners to have a foundation in programming and a deep understanding of emerging technologies. However, these technical skills are not systematically taught in traditional journalism education. As a result, many experienced journalists and editors, while highly skilled in traditional news gathering and editing, often lack the technical background needed to integrate innovative technologies into their daily news reporting. This not only affects the depth and

breadth of news content but also hinders news organizations from competing with emerging digital media in terms of innovative reporting formats.

4. Strategies for the innovation and development of news media in the new era

4.1. Strengthening technological innovation and R&D investment

News organizations need to establish a long-term mechanism for technology research and development to enhance the sustainability and stability of technological innovation. In practice, a dedicated technology R&D department can be established to focus on exploring and applying new technologies. This department should bring together technical personnel from multidisciplinary backgrounds, including experts in data science, artificial intelligence, and software development, to form an interdisciplinary R&D team, ensuring that the research and development are at the forefront and comprehensive. Moreover, project-based management should be introduced to combine technology R&D with specific news application scenarios, promoting technological breakthroughs on a project-by-project basis. This approach not only improves R&D efficiency but also ensures the practical application of technological innovations.

Increasing targeted investment in key technology fields and concentrating resources to solve core technical challenges is an effective way to advance technological innovation. Artificial intelligence, big data analysis, and blockchain technology are the most promising areas in the current news media landscape. News organizations should prioritize these fields, addressing key issues such as automated news production, data-driven analysis, and copyright protection. In the implementation process, a strategy that combines both importing and independent R&D can be adopted. On the one hand, news organizations should actively absorb and introduce cutting-edge technological achievements, while on the other, they should conduct secondary development and localized innovation based on the specific needs of news dissemination, forming technical solutions that cater to their unique characteristics. Additionally, collaboration with universities, research institutes, and tech companies can be pursued to jointly establish laboratories or technology R&D centers, using a model that integrates industry, academia, and research to share technological resources and accelerate the conversion of technological achievements.

4.2. Promoting cross-platform cooperation and data sharing

A unified data standard and interface specification should be established to ensure consistency in data formats, processing methods, and transmission protocols across different news platforms. This can be achieved by setting industry standards or establishing guiding technical norms at the national level, ensuring smooth interaction and integration of data between platforms. Through standardized data interfaces, platforms can share data while maintaining uniformity in data structures, reducing the cost and technical difficulty of data integration. This initiative not only facilitates cross-platform dissemination of news content but also makes data analysis and application more efficient, forming an organic news data ecosystem.

Proactively promoting internal industry collaboration by establishing data-sharing alliances or cooperative networks can unite different types of news organizations, technology companies, and research institutions to build an open data-sharing platform. Under the framework of such an alliance, member organizations can, according to agreed protocols, open up their non-sensitive data resources and reach a consensus on data usage permissions, exchange methods, and data security guarantees. This alliance mechanism helps to establish

a cooperative model of resource sharing, improving the efficiency of data utilization. To encourage active participation, the alliance can introduce a data-sharing incentive mechanism, offering rewards or technical support to units that share high-quality data. The alliance can also regularly organize seminars or workshops on data sharing and cross-platform collaboration to foster technical exchanges and deepen the practice of data sharing.

4.3. Cultivating and attracting new media talents

News organizations should establish close cooperative relationships with universities and research institutes to jointly develop talent cultivation plans and design course systems that meet industry development needs. These courses should cover cutting-edge areas such as data journalism, artificial intelligence applications, digital content creation, and user experience design, with a focus on developing students' interdisciplinary abilities. Additionally, by setting up joint laboratories and cooperative research centers, real-world news production processes can be incorporated into the educational experience, increasing students' practical opportunities during their studies and equipping them with strong practical skills and technical application capabilities by the time they graduate.

News organizations should also strengthen on-the-job training and improve internal training systems to provide current employees with regular skill enhancement opportunities. Training content should cover the use of data analysis tools, understanding algorithm recommendation mechanisms, and multimedia content editing, helping traditional news professionals quickly adapt to the new technological environment. On-the-job training can take a hybrid approach, combining online and offline methods to meet flexible learning needs while enhancing technical application skills through workshops and hands-on projects. Additionally, industry technical experts can be invited to host regular thematic lectures or technical sharing sessions, allowing employees to stay informed about the latest industry trends and apply cutting-edge technologies in their daily news production work.

5. Conclusion

The innovative development of news media in the new era is not only a necessary requirement for the industry's self-transformation but also a vital driving force for promoting social progress and cultural communication. Faced with the rapidly changing technological environment and diversified audience demands, news media must continuously explore new development paths, maintaining a dual focus on both technology and humanistic values, striving to occupy a more proactive and advantageous position in the global information dissemination system. In the future, only through coordinated development across multiple dimensions—technology, institutions, content, and culture—can the media industry achieve true high-quality development and play a more unique and far-reaching role in the information flow of the new era.

Disclosure statement

The authors declare no conflict of interest.

References

- [1] Zhu YP, Park HW, 2024, Publication, Collaboration, Citation Performance, and Triple Helix Innovation Gene of Artificial Intelligence Research in the Communication Field: Comparing Asia to the Rest of the World. *Journal of the Knowledge Economy*, published online. <https://doi.org/10.1007/s13132-024-02280-6>
- [2] Ndlovu M, 2024, Audience Perceptions of AI-driven News Presenters: A Case of “Alice” in Zimbabwe. *Media Culture & Society*, published online. <https://doi.org/10.1177/01634437241270982>
- [3] Schau HJ, Luri I, Akaka MA, 2024, Organizational Resiliency through Practice Innovation: Forced Brand Evolution in a Prolonged Exogenous Service Ecosystem Disruption. *Journal of Service Management*, published online. <https://doi.org/10.1108/JOSM-03-2023-0115>
- [4] Weber MS, Borges-Rey E, 2024, Re-opening the Black Box of Code in the Era of Digital Technology. *Digital Journalism*, 12(7): 1068–1076. <https://doi.org/10.1080/21670811.2024.2397085>
- [5] Cheng K, Verboord M, 2024, The Diffusion of Immersive Journalism as Media Innovation from Media Professionals’ Perspectives. *Journalism*, published online. <https://doi.org/10.1177/14648849241282510>
- [6] Watson A, Wozniak-O’Connor V, 2024, The Promise of Artificial Intelligence in Health: Portrayals of Emerging Healthcare Technologies, *Sociology of Health & Illness*, published online. <https://doi.org/10.1111/1467-9566.13840>
- [7] Kuai J, 2024, Unravelling Copyright Dilemma of AI-Generated News and Its Implications for the Institution of Journalism: The Cases of US, EU, and China. *New Media & Society*, 26(9): 5150–5168. <https://doi.org/10.1177/14614448241251798>
- [8] Cools H, Diakopoulos N, 2024, Uses of Generative AI in the Newsroom: Mapping Journalists’ Perceptions of Perils and Possibilities. *Journalism Practice*, published online. <https://doi.org/10.1080/17512786.2024.2394558>

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